

### **REMARKS**

Claims 1, 3, 4, 7 to 9, and 11 to 13 are now pending in the application. Claims 6 and 10 are cancelled. Claims 1 and 7 are amended to recite that the epoxy resin has “a cationic functional group selected from the group consisting of quaternary ammonium, sulfonium and phosphonium,” and to incorporate the subject matter of cancelled Claim 6. Claim 7 has also been amended to remove the phrase “if necessary” with respect to the salting step. Claim 13 is new and recites that the cationic functional group is phosphonium. Support for these amendments is found in the specification as originally filed, for example at paragraphs [0016] and [0028].

The Examiner is respectfully requested to reconsider the claims and withdraw the rejections in view of Applicant’s amendments and remarks contained herein.

### **REJECTION UNDER 35 U.S.C. §112**

Claims 7 to 10 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite.

Applicant has amended Claim 7 to remove the “if necessary” language. It is further noted that Claim 7 is also amended to recite a cationic functional group. The “salting step” is no longer optional, and Claim 7 is therefore not indefinite. Accordingly, Applicant requests the rejection be withdrawn.

### **OBVIOUSNESS-TYPE DOUBLE PATENTING REJECTION**

Claims 1, 3, 4, 6, 11, and 12 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 5-10 of

copending Application No. 10/723,899 (U.S. Pub. App. No. 2005/0113509).

Applicant respectfully points out that 10/723,899 stands abandoned as of June 14, 2006. Thus, the non-statutory double patenting rejection is rendered moot, and the rejection should be withdrawn.

### **REJECTION UNDER 35 U.S.C. §103**

Claims 1, 3, 4, and 6 to 12 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Hartung et al. (U.S. Pub. App. No. 2003/0150730) in view of O'Connor et al. (U.S. Patent No. 4,496,684) or Gras et al. (U.S. Patent No. 6,479,613). These rejections are respectfully traversed.

As stated by the Examiner in the Office Action, the Hartung reference fails to disclose a uretdione crosslinking agent that corresponds to the claimed uretdione compound. Applicants respectfully submit that the O'Connor and Gras references also do not describe the specific uretdione compound of the claims (wherein R is a divalent alkylene radical, R' is a divalent alkylene, cycloalkylene, arylene, or alkylarylene radical, and n is an integer of 1 to about 50).

Firstly, O'Connor describes reacting a hydroxyl-terminated prepolymer with an anhydride derived from a dicarboxylic acid to provide an oligomer having carboxylic acid functional groups. The O'Connor oligomer most preferably has a carboxylic acid group content from about 2.5% to about 6.3%. O'Connor at col. 3, lines 48-61 and col. 4, lines 30-41. Applicant's claimed uretdione structure does not include functional carboxylic acid groups. Thus, Applicant submits that the present claims are non-obvious in view of the combined Hartung and O'Connor references.

Secondly, the Gras reference does not describe uretdione products for use in aqueous, electrodepositable coatings. Instead, Gras describes heat-curable *powder coatings* and *stoving enamels* containing polyaddition products with uretdione groups. Gras at col. 4, lines 12-16. The uretdione compound of the present claims is not described by Gras. Additionally, there is no suggestion in the Gras reference for one of ordinary skill to combine the polyurethane powder coatings of Gras with the aqueous coating system of Hartung. For these reasons, Applicants submit that a *prima facie* case of obviousness has not been established.

With regard to new Claim 13, Applicants additionally point out that the Hartung reference does not describe a cathodically depositable epoxy resin having a quaternary phosphonium group. Hartung instead describes binders for cathodic electrodeposition that include "primary, secondary, tertiary or quaternary amino or ammonium groups and/or tertiary sulfonium groups." Hartung at paragraph [0034]. In particular, the reference describes *amino* epoxy resins having primary and/or secondary hydroxyl groups. *Id.* The O'Connor and Gras references also do not provide the limitations absent from the Hartung reference. Thus, the combined Hartung and O'Connor or Gras references do not render new Claim 13 obvious.

Accordingly, Applicant respectfully requests withdrawal of the §103 rejection and reconsideration of the claims.

### **CONCLUSION**

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests

that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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